

CHRIS Study

Interview – Blood values

Version 1.1

24th April 2024

Authors: LB, MG

1. Introduction

This module stores information related to the blood pressure and blood lipids findings of the participant, that were collected at the interview.

Participants book a morning appointment at the CHRIS study center, ranging from 7.45 to 8.45 a.m. Each study participant is assigned a workflow at the reception. If there are ten study participants (maximum capacity), there are ten different workflows, marked with the letters from “A” to “K”. The current workflow is as follows: A-B-C-D-E-F-G-H-I-K. All the workflows can be found in the documentation of CHRIS Baseline/General information/Administrative data, in the file named “Workflows at baseline assessment”. The interview occurs always after the spiralography and the blood drawing, for most as the last session, after the ECG assessment and the self-administered questionnaire (workflows B, C, E, F, H, I, L). For the remainder, the interview occurs after breakfast and just before the self-administered questionnaire (workflows A and G) or in between the blood drawing and the anthropometry (workflow D).

The interview full text and its corresponding answer lists are available at CHRIS Baseline/Interview. The first version of this module is based on the BLUTDRUCK / BLUTFETTE module of the questionnaire of the KORA Study (*Kooperative Gesundheitsforschung in der Region Augsburg*), whereas the second version is based on [PhenX Toolkit Blood Pressure \(Adult/Primary\)](#) and [PhenX Toolkit Lipid Profile](#).

2. History version changes

Version 1 has been in use between August 24th, 2011, and November 2nd, 2012, whereas Version 2 has been in use since November 5th, 2012. Below the changes occurred between the two versions are listed.

Version 1 to Version 2

variables dropped: x0bl11, x0bl11b

variables added: x0bl01c, x0bl02, x0bl02a, x0bl02b, x0bl02c, x0bl12, x0bl12a, x0bl12b, x0bl12c

question rephrased: x0bl01 (de, it), x0bl01b (de, it)

No question order or filtering criteria was changed.

3. Data cleaning

1. The main CHRIS dataset was loaded.
2. The variable on high blood pressure ever diagnosed, x0bl01, had its observations transformed into:
 - a) “Unexpected missing” (-89) if they were missing,
 - b) “Don’t know” (-88) if the third answer option “I do not know” was chosen.
3. The variable on age at high blood pressure diagnosis, x0bl01b, had its missing observations transformed into:

- a) "Missing by design" (-99) if no high blood pressure ever was reported (x0bl01="No", "Missing by design" or "Don't know")
 - b) "Unexpected missing" otherwise.
4. The variable on age at high blood pressure during pregnancy, x0bl01c, available only in the second version, had its missing observations transformed into:
 - a) "Not in use" (-98) if the questionnaire version, x0blver, was the first,
 - b) "Missing by design" (-99) if the participant was a male, or if no high blood pressure was reported (x0bl01="No", "Missing by design" or "Don't know"), or if the age at high blood pressure diagnosis was after 55 years old (x0bl01b \geq 55),
 - c) "Unexpected missing" otherwise.
5. The variable on treatment of high blood pressure ever, x0bl02, had its missing observations set to:
 - a) "Not in use" (-98) if the questionnaire version, x0blver, was the first,
 - b) "Unexpected missing" otherwise.
6. The variables on age at treatment for high blood pressure initiation, x0bl02a, and on current treatment, x0bl02b, had their missing observations set to:
 - a) "Not in use" if the questionnaire version, x0blver, was the first,
 - b) "Missing by design" if no treatment was ever undergone (x0bl02="No", "Missing by design" or "Don't know")
 - c) "Unexpected missing" otherwise.
7. The variable on treatment of high blood pressure ever, x0bl02, was corrected into "Yes" if an age or year of treatment initiation, x0bl02a and x0bl02b, was reported.
8. The variable on age at treatment discontinuation, x0bl02c, had its missing observations set to:
 - a) "Missing by design" if the participant was currently under treatment or no treatment was ever started (x0bl02b="Yes" or "Missing by design"),
 - b) "Unexpected missing" otherwise,
 - c) "Don't know" if the value of "99" was reported.
9. The variable on high blood lipids ever diagnosed in the last 12 months, x0bl11, had its observations transformed into:
 - a) "Not in use" if they were missing and the questionnaire version x0blver was the second,
 - b) "Unexpected missing" (-89) if they were missing,
 - c) "Don't know" (-88) if the third answer option "I do not know" was chosen.
10. The variables on year and age at high blood lipids, x0bl11a and x0bl11b, available only in the first version, had their missing observations transformed into:
 - a) "Not in use" (-98) if the questionnaire version, x0blver, was the second,
 - b) "Missing by design" (-99) if the participant had no high blood lipids in the previous 12 months (x0bl11="No", "Missing by design" or "Don't know"),
 - c) "Unexpected missing" otherwise.
11. The variable on high blood lipids ever diagnosed, x0bl12, had its observations transformed into:
 - a) "Not in use" if they were missing and the questionnaire version x0blver was the first,
 - b) "Unexpected missing" (-89) if they were missing,
 - c) "Don't know" (-88) if the third answer option "I do not know" was chosen.
12. The variable on treatment of high blood lipids, x0bl12a, available only in the second version, had its missing observations transformed into:

- a) “Not in use” (-98) if the questionnaire version, x0blver, was the first,
 - b) “Missing by design” (-99) if the participant had no high blood lipids (x0bl12=“No”, “Missing by design” or “Don’t know”),
 - c) “Unexpected missing” otherwise.
13. The variables on treatment of high blood lipids initiation and current treatment, x0bl12b and x0bl12c, available only in the second version, had their missing observations transformed into:
- a) “Not in use” (-98) if the questionnaire version, x0blver, was the first,
 - b) “Missing by design” (-99) if the participant was never under treatment for high blood lipids (x0bl12a=“No”, “Missing by design” or “Don’t know”),
 - c) “Unexpected missing” otherwise.
14. All the year variables, x0bl01a and x0bl11a, were dropped in favor of the age variables, x0bl01b and x0bl11b.
15. The variables storing the notes additional information on high blood pressure, x0bln1, its treatment, x0bln2, and high blood lipids, x0bln3, and generally on blood levels, x0blnote, were translated and categorized when possible.
16. The ages at blood lipids treatment initiation, x0bl12b, was corrected if additional information was reported in x0bln3.
17. The baseline dataset was saved.

4. Advices for the analysis

The content of the nurse’s notes, referring to blood levels findings, can include reporting information on hypertension treatment changes or multiple diagnoses, such as multiple pregnancy hypertension diagnoses. Additionally, borderline findings could have also been reported.

The questions on current treatment, despite available only for the second version, can be complemented with the drugs module x0dd*, where the participant let their current medication packages be scanned by the nurse at the study center. Specifically, the variable x0dd20 classifies the blood pressure lowering therapy in use, and the variable x0dd22 reports on lipids modifying agents use.

Finally, the analyst should always take into account that the operator in charge of carrying out the interview might have influenced how the participant reported their answers. The analyst should therefore adjust for the operator variable, x0_opintc, when possible.

5. References

Löwel H, Döring A, Schneider A, Heier M, Thorand B, Meisinger C. The MONICA Augsburg surveys - basis for prospective cohort studies. *Gesundheitswesen*. 2005;67(Sonderheft 1):S13–S18. DOI: [10.1055/s-2005-858234](https://doi.org/10.1055/s-2005-858234)

Holle R, Happich M, Löwel H, Wichmann H-E. KORA-A Research Platform for Population Based Health Research. *Gesundheitswesen*. 2005;67(Sonderheft 1):S19–S25. DOI: [10.1055/s-2005-858235](https://doi.org/10.1055/s-2005-858235)

Blood pressure, second version: <https://www.phenxtoolkit.org/protocols/view/40301>

Blood lipids, second version: <https://www.phenxtoolkit.org/protocols/view/40201>